

THE TREATMENT OF URETHRITIS

IN ALL FORMS AND STAGES,

BY MEANS OF

ANTROPHORS.



THOS. CHRISTY & Co.,

25, LIME STREET, LONDON, E.C.

1892.

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ANTROPHORS, OR COATED SPRING BOUGIES.

THE idea of using a metal spring for applying remedies to the urethra was proposed about six years ago. At first nickelled-metal spirals were employed, and when they had received their coat of medicament they were known by the name of Antrophor, or Spring Bougie.

Since their introduction, antrophors have been used with increasingly satisfactory results. Surgeons have found them the most convenient and effective method for treating diseases of the urethra, especially the posterior portion, the section of the canal which is difficult to treat topically.

To aid the general practitioner we have thought it advisable to give a few indications for the employment of antrophors, in which are incorporated some suggestions and remarks which have recently been published by Dr. E. Finger, of Vienna. Added to these, we have printed reports of cases which have been treated by well-known surgeons both here and on the Continent.

Indications for the Use of Antrophors in the Treatment of Urethritis in all Stages.

I.—URETHRITIS ACUTA ANTERIOR.

In testing the urine, which should be passed in two glasses, the first portion will be found turbid, the second always clear.

In the primary stage of a first infection, and as long as no pain is felt during micturition or during erection, any medical treatment should be avoided. Treatment must be purely symptomatic. Hygiene and diet must be duly regulated, care and caution observed in all movements, an efficient suspender should be worn, and the bowels kept well open.

When the inflammation begins to subside, and no pain is felt during erection or urination, 2½% Thallin Antrophors 5½ inches long may be introduced twice daily, but must not be allowed to remain in the urethra longer than four to five minutes. The 2½% Thallin Antrophors are easily supported, the first application only causing a little burning sensation. After a few days 5% Thallin Antrophors 5½ to 7 inches long may be used. The action of the thallin soon causes the secretion to become thinner and more transparent, and very often it disappears after 8, but usually within 14 days. To obtain a complete cure it is extremely advisable to continue the use of the antrophors for several weeks, at least until the urine is perfectly clear, and for this purpose a few Thallin and then 5% Tannic Acid Antrophors should be employed every two or three days.

In cases of patients who have already suffered from gonorrhœa, the inflammation is seldom so severe, and the application of antrophors can be commenced at an earlier stage, when a surprisingly rapid disappearance of the secretion is obtained.

Recently many authorities have proved that the posterior urethra is affected by the process of inflammation in gonorrhœa far oftener than has heretofore been imagined.

Dr. Judassohn, of Breslau,* found among 163 cases of gonorrhœa examined at least four weeks but mostly six weeks after infection, 143 cases, *i.e.*, 87·7%, where the posterior urethra was affected.

Dr. Letzel, of Munich,† found among 53 cases of gonorrhœa (first attack) which presented themselves for treatment from seven to ten weeks after infection, only four patients with the posterior urethra unaffected, whereas with the remaining 49, *i.e.*, 92·5%, it was affected.

Dr. Rona, Buda Pesth,‡ found whilst examining more than 300 cases of gonorrhœa, in acute cases 62% affected with posterior urethritis.

Dr. J. Heister§ found among 50 first infections, during the first week 20%, during the second week 34%, and during the third week 14% of posterior urethritis, from which he gathers that the transmission of the inflammation to the posterior portion *did not take place after three weeks*, but in most cases during the first or second week after infection. The blennorrhagic matter was not transported direct to the farther part by means of probe, antrophor, or otherwise.

II.—URETHRITIS ACUTA POSTERIOR.

Test urine as before. First portion will be very turbid, second less so, or turbid changing into clear in the course of the day. In acute cases the imperious desire to pass water will be continual, in sub-acute cases intermittent.

During the acute stage symptomatic treatment should be resorted to, as mentioned in the case of acute anterior urethritis. After the painful symptoms have disappeared, 2½% Thallin Antrophors 8 to 9 inches long, and later on the 5% Thallin or Tannic Acid Antrophors will be found to be most effective. Ordinary injections are unable to pass the muscular urethra, and therefore cannot penetrate to the posterior urethra.

III.—URETHRITIS SUB-ACUTA ANTERIOR.

Gonorrhœal threads in slimy, turbid urine; longer duration of inflammation.

Test urine as before. First portion will be slimy, turbid, with gonorrhœal threads; second portion always clear. After rinsing out the penile urethra by means of a Nelaton catheter introduced as far as the bulb, the urine is clear.

Any of the following antrophors 5½ to 7 inches long may be used:—Arg. nitr. 0·5 to 1%; tannic acid 5%; resorcin 3 to 5%; resorcin 5% and zinc sulphate 0·5 to 1%; resorcin tannin āā 5%; thallin sulphate 2½ to 5%; sozoiodol zinc 2%.

In considering the lasting action of the medicaments when applied by means of antrophors, these will be found preferable to injections.

IV.—URETHRITIS SUB-ACUTA POSTERIOR.

Gonorrhœal threads, slimy, turbid urine.

Test the urine as before. First portion will be slimy and turbid, with gonorrhœal threads; second portion turbid or clear, with or without “Furbringers

* Kongress der dermatologischen Gessellschaft, Prag.

† Versammlung Deutscher Naturforscher und Ärzte in Bremen, 1890.

‡ Oroosi hetilap, No. 43, 1890.

§ Archiv für Dermatologie und Syphilis, Heft V., 1891.

hooks," irritation of pars prostatica and sexual organs, imperious pressure of urine, prostatorrhœa, pain during ejaculation, frequent emissions. After rinsing out the penile urethra the morning urine will be turbid, with threads. Treatment: local, and similar to that in posterior acute urethritis. URETHRAL ANTROPHORS 7 to 10 inches long, or if only the posterior urethra and bulb be attacked, Prostatic Antrophors* medicated as mentioned under III. should be employed.

V.—URETHRITIS CHRONICA ANTERIOR.

Adhesion of orificium urethræ; urine clear, with gonorrhœal threads. After rinsing out the pars anterior, morning urine quite clear.

(a) Surface forms. Urethrometer shews normal dilatibility. Treatment same as urethritis sub-acute anterior. Application of astringents to the pars anterior by means of antrophors medicated with Cupr. sulph. 0·5% and other remedies mentioned under III. Changing the medicament often produces good results. In inveterate cases lanoline ointment with creolin 2 to 5%, arg. nit. 1 to 3%, cupr. sulph. 2 to 5%, pot. iodide 1 to 2%, or iodine 0·1 to 0·5% should be applied by means of gonorrhœa probe.

(b) More deeply set forms. Urethrometer shows a diminution of the normal dilatibility at one or several surrounding parts, i.e., presence of deeper set infiltrations, which will ultimately produce strictures. Astringents should be applied as with surface forms and to ensure an action upon the disease which has attacked the deeper portion, and to which astringents cannot penetrate; mechanical treatment should be resorted to, such as astringent antrophors and Lanoline ointments, &c., alternated by the use of probes† of high calibres and dilators.

VI.—URETHRITIS CHRONICA POSTERIOR.

This can exist alone or combined with Anterior Urethritis. Urine clear with gonorrhœal threads. After rinsing the pars anterior, gonorrhœa threads in clear urine.

(a) *Surface forms* (without symptoms of Prostatorrhœa, sexual Neurasthenia).

In this stage, antrophors have many times produced a success after sundry other methods of treatment have proved to be ineffectual.

Applications of astringents in the form of ointments are also indicated, a small cocoa-butter "stem," containing 0·01 arg. nitr. should be placed in the pars prostatica by means of the gonorrhœa probe.

(b) *Deeper set forms* attacking the prostate, especially the caput gallinaginis. Symptoms: sexual neurasthenia, morbid emissions, prostatorrhœa, spermatorrhœa during defæcation and urination, pain during ejaculation, precipitation of urine, incomplete erections, impotence, general neurasthenia.

Treatment should be by astringent therapy (Lanoline ointments, with astringents), probe cure, and the rectum should be syringed with warm water 98° to 104° Fahr., and cocoa-butter stems containing iodine 0·01, pot. iodide 0·4 should be inserted once or twice daily.

* For construction of Prostatic Antrophor, see p. 6. These are especially suitable for the application of strong astringents and cauterising agents. By using them irritation of the more sensitive fore-part of the urethra is avoided.

† Special Circular.

URETHRAL ANTROPHORS.

CONSTRUCTION.

The Urethral Antrophor is made with a fine and infinitely pliable metal spiral spring, serving as a support for the medicament. The metal spring is first covered with a *thin and smooth insoluble mass*, to protect the mucous membrane of the urethra from irritation, and then coated with a soluble medicated mass, which contains one of the following remedies :—

- Iodoform 5 %, 10 %, 20 %,
- Nitrate of Silver 2%,
- Resorcin 3-5 %,
- * Resorcin 5 %, with Zinc. Sulph. 0.5 %,
- Resorcin-Tannic-Acid, aa 5 %,
- Soziodol-Zinc 2 %,
- Tannic Acid 5 %,
- † Thallin Sulphate 2%,
- Thallin Sulphate 5%,
- Thallin Sulphate 2% } combined with 10% Cocaine for use in those cases
- Thallin Sulphate 5% } where great tenderness of the part exists.
- Zinc Sulph. 0.5 %.

At the ordinary temperature this medicated substance is solid, but it dissolves at the temperature of the blood, forming a soft ointment in the urethra.

THE FOLLOWING ARE THE LATEST IMPROVEMENTS :—

The first coating is insoluble, and therefore not capable of diffusion. It consists of a preparation of guttapercha, forming an absolutely smooth and soft surface, which entirely prevents any irritation of the mucous membrane, as well as any decomposition of the metal by action of the medicated substance. In place of the rings formerly in use, which easily became rusty and were inconvenient, the Urethral and Prostatic Antrophors now have loops, which by simply being bent open prevent the Antrophor slipping too far into the urethra.



The Urethral Antrophors are supplied in lengths of 5, 7 and 9 inches, and packed in boxes containing 6, 12, 24 and 50.

By means of these Antrophors almost all medicaments can be applied.

* Many authorities recommend resorcin for the treatment of urethritis in all stages, and it can be applied by means of Antrophors containing 3 and 5%. Besides those with pure resorcin, Antrophors containing the combination as first recommended by H. Lohnstein, of Berlin, which consist of resorcin 5, zinc 0.5 to 1%, and resorcin-tannin aa 5% are in large demand. The number of these used during last year amounted to 32,000, and is decidedly on the increase.

† Professor Goll, of Zurich, having proved that Thallin completely destroys the gonococci even in a ½% solution, and diminishes the duration of gonorrhœa, it is now used by means of Antrophors to a very large extent, and the beneficial action of the Thallin-Urethral-Antrophors in treatment of acute or chronic gonorrhœa has been testified by many surgeons, specialists and hospitals. It must be specially noted, however, that Thallin Antrophors containing 2½% should first be used, and when the patient can easily support this strength those containing 5% should be employed. Further, in cases of first infection the Thallin Antrophors are only indicated when the inflammation commences to subside. The "abortive" treatment of acute urethritis with Thallin Antrophors as formerly recommended has in several instances only aggravated the disease, and cannot, therefore, be recommended any longer. The extensive use of Thallin Antrophors shows most clearly that good results are obtained with them in surgical practice, for during last year 78,350 were used.

ADVANTAGES OF URETHRAL ANTROPHORS COMPARED TO INJECTIONS.

In Treatment of Anterior Urethra.—Ordinary injections mostly flow out of the urethra very quickly, and do not penetrate into the folds and recesses of the urethral mucous membrane.

The antrophors smooth out the folds of the urethra, and the remedy comes into immediate contact with the diseased membrane. The medicated substance dissolves in the urethra within about ten minutes to a soft ointment, which, in consequence of the lasting and intimate contact with the diseased mucous membrane, will saturate these and thereby carry the medicament into the folds and recesses of the urethral mucous membrane, where it is easily and safely absorbed.

In Treatment of Posterior Urethra.—The Musculus Compressor Partis Membranaceæ prevents the penetration of fluids, injected by means of the ordinary gonorrhœa syringe, further than the bulb.

Antrophors, in spite of the infinite pliability of the metal spring, offer a firm resistance, facilitating the safe and easy introduction of the medicament beyond the musculus compressor into the posterior urethra without discomfort to the patient.

II.—COMPARED TO COCOA-BUTTER, GUM ARABIC, OR GELATINE BOUGIES OF ANY KIND.

Medicines soluble in water or glycerine are *held in solution* by the antrophor substance, and are not enclosed in a fatty mass as is the case with cocoa-butter bougies. Therefore, by means of accurate doses and procentic dilution, an equal distribution of the medicament is ensured by means of the antrophor, as well as a prompt action. The extreme softness of the gelatine bougies and the brittleness of cocoa-butter bougies prevent these being easily introduced, and it is only by means of the endoscope that they can be brought into the pars prostatica urethræ.

Gum Arabic bougies are more resisting than above mentioned; they can be introduced without difficulty to the bulb of the urethra, but to the pars prostatica they must be introduced by an experienced hand, and that only when recently made, *i.e.*, when still pliable. They easily become brittle, and are then liable to injure the mucous membrane.

With regard to the French bougies, consisting of a dextrinous substance, a Paris expert writes: “Your antrophors will certainly meet with a large demand here, as the ‘Bougies Reynal,’ which are in use here, are without wire, and take two hours to melt.—Paris, 29th October, 1891. Dr. NAEGELI.”

NEW UTERINE ANTROPHOR (Dr. Falk).

The only method for introducing remedies into the uterus.

The most used Uterine Antrophors, which have a length of 3, 4 and 5 inches, are—

| | | |
|--|--|---------------------------------|
| | with Tannic Acid 5-10% | |
| For sub-acute and chronic endometritis | „ Sulphate of Copper 0.3-1% | } Combined with 10% of Cocaine. |
| | „ Resorcin 10% | |
| | „ Resorcin 5%, Zinc Sulph. 1% | |
| | „ Chlorate of Zinc 1% | |
| For gonorrhœic endometritis. | „ Creosote 2% | } Combined with 10% of Cocaine. |
| | „ Creosote 2%, Chlorate of Zinc 1% | |
| | „ Sublimate 0.1% | |
| | „ Sublimate 0.1%, Chlorate of Zinc 1%. | |

Convenient holders for the easy introduction supplied.

PROSTATIC ANTROPHORS.

The Prostatic Antrophor has a length of 9 inches (22 Ctm.), and is made on the same principle as the Urethral Antrophor, except that the whole of the medicated portion is limited to the end, which is about 3-4 inches (7-10 Ctm.) in length, and the shaft is coated with an insoluble mass of 5 mm. diameter.

These Prostatic Antrophors possess the following advantage: the medicament is brought into the farthest part of the urethra only, *i.e.*, into the urethra posterior and into the bulb, which is in most cases affected at the same time.

For special cases, where only a small part of the urethra is to be touched by the medicament, Prostatic Antrophors with a very limited medicated portion can be made to order.

Directions for Use.

URETHRAL OR PROSTATIC ANTROPHORS.

Before using the antrophor it must be cleansed from the talc powder, which prevents it from adhering to the waxed paper in which it is wrapped, by rinsing with cold water (or with 0.1% sublimate solution), and must then be introduced while still moist into the urethra, dilating same by a gentle pressure of the thumb and first finger of the left hand.

BEFORE THE INTRODUCTION OF THE ANTROPHOR IT IS ABSOLUTELY ESSENTIAL TO CLEANSE THE URETHRA BY A COPIOUS DISCHARGE OF URINE IN A POWERFUL STREAM. A sufficient quantity of water or milk should therefore be drunk a few hours previous to every application.

It is advisable to close the meatus by a sufficient pressure of the thumb and first finger, preventing the antrophor substance from oozing out too soon; this ensures a more lasting action, and should be continued after withdrawal of the spring from for 5 to 10 minutes, during which time the patient should lie quietly in a recumbent position.

The antrophor should remain from 5 to 10 minutes in the urethra (not longer), when the medicated coating will have melted and the spring can be removed.

The introduction of the antrophors should cause no pain, and the use of any force is injurious. After being thoroughly moistened the antrophor slips easily into the urethra, especially if the member be drawn towards the antrophor with the left hand.

Antrophors are best introduced of an evening before going to bed. In cases devoid of pain, a second one can be inserted in the morning.

In consequence of its smooth and soft insoluble coating the spring can be withdrawn without any irritation whatever. After withdrawal it cannot be used again.



Extracts from Medical Journals.

LONDON.

The Lancet, April 14th, 1888, "Spring Bougies or Antrophors in the Treatment of Gonorrhœa."

As I have had the antrophors in constant use for intractable gleet for six months, it may perhaps not be unacceptable to your readers to have partial confirmation of Dr. Lohnstein's statements as to their efficacy. I started to work empirically, treating all varieties of non-strictural gleet with them. I soon obtained sufficient knowledge to limit the use of the antrophors to cases of mild urethritis and chronic gleet, and to employ only those bougies which were made of 2½% and 5% of thallin, and such of thallin with a coating of cocaine. The results of this method have been very successful in my hands. Eighty cases of chronic gleet, *one fourteen and a half years*, some *seven and a half years*, and most of two years' duration were taken, and of these a large percentage were cured, the rapidity of the cure varying from three to five weeks.

The medicated bougie is the best I have ever met with; its pliancy permits of its ready adaptation to the curves of the urethra, and its firmness allows of its easy introduction. I have regarded the bougie as a most efficient "solid" adhesive injection, and experience tends to prove what bacteriologists have demonstrated, viz., that thallin is fatal to the gonococcus. I have never used the antrophor—nor can I advise its employment—in acute gonorrhœa.

I have never seen any complications arise from their use, such as orchitis, cystitis, sub-urethral abscess, &c. This is perhaps due to the bougie being under more perfect control than an ordinary injection.

ST. PETER'S HOSPITAL.—*New Commercial Plants & Drugs*, by T. Christy, F.L.S., No. 11, 1889:—

The antrophors were employed in nearly 80 cases of chronic gleet, and the experience obtained with it was detailed in the course of a clinical lecture on Therapeutical Innovations at St. Peter's Hospital, on March 21st, of which we were kindly permitted to take the following shorthand notes:—

This coated Spring Bougie (antrophor) which you have just seen me use in this case of gleet, has been liberally supplied me during the last few months by Messrs. Christy & Co. It is the best I have ever met with. Up to this date we have been forced to use Cacao Butter Bougies. These latter are, however, made either too stiff to enter the curve of the deep urethra, or too soft to penetrate as far as that section of the canal. They also melt too rapidly. *Now the essential points of a perfect Medicated Bougie are these—*

- (1) It should be long enough to reach the deep urethra.
- (2) It should be pliant enough to adapt itself to the curves of the canal, and stiff enough to allow of its easy and ready introduction.
- (3) The material should melt *evenly*, but not too rapidly.

These three essentials are afforded in the antrophor. You will doubtless agree with me that few cases are more troublesome or wearisome to the practitioner than are obstinate cases of gleet. In the generality, a gonorrhœa slides into the gleet stage, and the gleet is curable, but a certain residue of cases remain, in which no form of treatment seems effective. Here is a list of seventy cases, and you will notice the long duration of some of these gleets. Here, for instance, are five in which the disease has lasted 7 years; the greater number, however, average from 1½ to 2½ years' duration. All these cases were treated indiscriminately (after stricture had been eliminated) by means of the antrophors, and the greater proportion reported themselves cured or relieved. The results with some of the cured cases were gratifying, in a few cases, startling, &c.

The British Medical Journal, October 20th, 1888, "Antrophors, or Spring Bougies, for the treatment of Gleet."

The antrophor is extremely pliant, it is neither too hard before use, nor too soft whilst in the canal as its predecessor, the Cacao Butter Bougie is. *It is, moreover, long enough to reach the most important gleet section of the urethra, the deeper part.*

In order to localise the action of the medicament for cases of patchy congestion or ulceration of the urethra, and for topical applications to the prostatic canal, Prostatic Antrophors have been made.

BERLIN.

Allgemeine Medicinische Central-Zeitung, 1888, No. 16 und 17, reported in *The Lancet*, March 24th, 1888:—

Dr. Hugo Lohnstein, of Professor Zuelzer's polyclinic in Berlin, has found, in 93 cases, that gonorrhœa in acute, subacute and chronic form, usually yields more readily to systematic

treatment by antrophors than to other methods. For the first days bougies containing 2% of thallin are employed, the subsequent days a bougie with 5%. In acute cases the thick secretion is usually changed by the second or third day into a thinner and clearer fluid; during the next few days the quantity of this gradually diminishes, and the secretion has generally entirely ceased in from eight to fourteen days treatment. Complications such as are produced by injections very rarely occur, epididymitis never.

The most difficult class of cases to treat is, of course, the chronic form. It was often found that, though the secretion could be greatly reduced by thallin antrophors, any attempt to lengthen the intervals of the introduction of the bougies was liable to be followed by a return to the original condition, and it was necessary to apply antrophors of different kinds (Tannin, Zinc, nitrate of silver, &c.) Results of the 93 patients: In 26 acute cases 24 were cured in 1—3 weeks, in 39 subacute cases 32 were cured in 2—5 weeks, in 28 chronic cases 22 were cured in 6 weeks.

MUNICH.

Dr. Kopp, writing in the *Munchener Medicinische Wochenschrift*, No. 2, 1890, says:—

The value of the antrophors is particularly seen in chronic and subacute cases of gonorrhœa (about three weeks after the infection). The medicament I specially recommend is resoreciu.

NEW YORK.

Dr. Rose (*Medical Journal*, October 22nd, 1887) says:—

In preference to injections and also in preference to gelatine bougies, I now employ a new contrivance ‘the autrophor,’ which instrument certainly has the advantage, in the first place, of being of service in all forms and stages of gonorrhœa. Goll’s experience with thallin interested me very much, as I too have treated a number of cases with this new drug. Thallin is the very specific against gonococci, and perhaps the long-searched-for means. It appeared to me that the thallin antrophor did more service in shortening the process than any treatment I had ever employed or heard of.

STUTTGART.

Dr. Nachtigall (*Therapeutische Monatshefte*, February, 1888) says:—

For the purpose of comparing the action of different bougies, I select only ten marked cases from the list of my gonorrhœa patients, which have been treated with bougies, and with the results as follows:—

| | My early Bougies. | Thallin Bougies. | Thallin Antrophors. |
|---------------------------|----------------------|---------------------|------------------------|
| Number of Applications... | 50 | 40 | 20 |
| „ per day ... | 3 | 3 | 2 |
| Duration of illness ... | 4 weeks | 3—4 weeks | 2 weeks |
| Failures ... | 1 | — | — |

TIFLIS.

Dr. S. Istamanoff (*Unna’s Monatshefte für Praktische Dermatologie*, 1888, No. 24), in ‘The Treatment of Infected Urethra by means of Thallin Antrophors,’ says:—

After having read the results obtained by Lohnstein with Antrophors I started to prove, and when I used them I was astonished by my success.

Of 29 acute cases 28 were cured in 10–20 days.

Of 24 subacute and chronic cases 22 were cured in 3–5 weeks.

VIENNA.

Dr. B. Kraus, in the *Allgem. Wiener Medizinische Zeitung*, says:—

In the treatment of gonorrhœa by means of Antrophors the medicament can be easily and safely carried to the farthest part of the urethra. The Antrophor, by reason of its pliability, adheres to the diseased mucous membrane, the medicated mass slowly dissolves, and by its uninterrupted and immediate contact with the diseased mucous membrane, becomes absorbed.